



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/582,354	05/14/2007	Takeyoshi Dohi	062643	1539
38834 7590 09/16/2010 WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP 1250 CONNECTICUT AVENUE, NW SUITE 700 WASHINGTON, DC 20036				
EXAMINER HOLLIM, JONATHAN A				
ART UNIT 3734		PAPER NUMBER		
NOTIFICATION DATE 09/16/2010		DELIVERY MODE ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentmail@whda.com

Office Action Summary

Application No.

10/582,354

Applicant(s)

DOHI ET AL.

Examiner

JONATHAN A. HOLLM

Art Unit

3734

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 May 2007.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-20 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 09 June 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SI/226)
Paper No(s)/Mail Date See Continuation Sheet
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :06/09/2006, 10/30/2006, 01/27/2010, 02/09/2010, 04/13/2010.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The information disclosure statements (IDS) submitted on 9 June 2006, 30 October 2006, 27 January 2010, 9 February 2010, and 13 April 2010 are in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statements are being considered by the examiner.

Drawings

3. The drawings are objected to under 37 CFR 1.84(h)(2). The drawings must be properly labeled separately (see figures 1A-C, 2A-C, 3A-C, and 5A-B). No new matter should be entered.
4. Figures 6 and 7 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g).
5. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure

is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

6. The abstract of the disclosure is objected to because the abstract exceeds 150 words. Correction is required. See MPEP § 608.01(b).

7. The disclosure is objected to because of the following informalities:

The specification does not include the following headings or respective sections in the proper order as required by 37 CFR 1.77(b):

CROSS-REFERENCE TO RELATED APPLICATIONS;
BACKGROUND OF THE INVENTION;
BRIEF SUMMARY OF THE INVENTION;
BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S); and
DETAILED DESCRIPTION OF THE INVENTION.

Appropriate correction is required.

Claim Objections

8. **Claims 1, 3-5, 7-10, 12-17, and 19-20** are objected to because of the following informalities:

In **claim 1**, the phrase "the front end side portion thereof" (line 2) should read - - a front end side portion thereof - -.

In **claim 3**, the phrase "the bending of the articulation portion" (lines 4-5) should read - - a bending of the articulation portion - -.

In **claim 4**, the phrase "constructed that" (line 2) should read - - constructed such that - -.

In **claim 5**, the phrase "the front side portion thereof" (line 2) should read - - a front side portion thereof - -.

In **claim 7**, the phrase "the bending of the articulation portion" (line 4) should read - - a bending of the articulation portion - -.

In **claim 8**, the phrase "constructed that" (line 2) should read - - constructed such that - -.

In **claim 9**, the phrase "the bending action at the second articulation portion" (lines 5-6) should read - - a bending action at the second articulation portion - -; and the phrase "the bending action at the first articulation portion ends" (line 6) should read - - a bending action at the first articulation portion ends - -.

In **claim 10**, the phrase "the direction along the rotary shaft" (line 10) should read - - a direction along the rotary shaft - -.

In **claim 12**, the phrase "the bending action at the second articulation portion" (lines 8-9) should read - - a bending action at the second articulation portion - -; and the phrase "the bending action at the first articulation portion ends" (line 9) should read - - a bending action at the first articulation portion ends - -.

In **claim 13**, the phrase "the bending action at the second articulation portion" (lines 10-11) should read - - a bending action at the second articulation portion - -; and the phrase "the bending action at the first articulation portion ends" (line 11) should read - - a bending action at the first articulation portion ends - -.

In **claim 14**, the phrase "constructed that" (line 2) should read - - constructed such that - -; and the phrase "the front end" (line 3) should read - - the front end portion - -.

In **claim 15**, the phrase "constructed that" (line 2) should read - - constructed such that - -.

In **claim 16**, the phrase "the bending action at the second articulation portion" (lines 5-6) should read - - a bending action at the second articulation portion - -; and the phrase "the bending action at the first articulation portion ends" (line 6) should read - - a bending action at the first articulation portion ends - -.

In **claim 17**, the phrase "composed of elastic body" (line 5) should read - - composed of an elastic body - -.

In **claim 19**, the phrase "constructed that" (line 2) should read - - constructed such that - -.

In **claim 20**, the phrase "containing a fitting hole and for urging" (line 2) should read - - containing a fitting hole and is configured for urging - -; and the phrase "fitted to the fitting hole" (line 7) should read - - fitted to the projecting portion - -.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. **Claims 3-4, 7-16, and 19** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
11. **Claim 3** recites the limitations "the articulation portion on the rear end side" (lines 3-4), "the rear end side" (line 4), "the articulation portion on the front end side ends" (lines 4-5) and "the front end side ends" (line 5). There is insufficient antecedent basis for these limitations in the claim.
12. **Claim 4** recites the limitation "the front end of the movable means" (line 3). There is insufficient antecedent basis for this limitation in the claim.
13. **Claim 7** recites the limitations "the articulation portion on the rear end side" (lines 3-4), "the rear end side" (line 4), "the articulation portion on the front end side ends" (lines 4-5) and "the front end side ends" (line 5). There is insufficient antecedent basis for these limitations in the claim.

14. **Claim 8** recites the limitation "the front end of the movable means" (line 3).

There is insufficient antecedent basis for this limitation in the claim.

15. **Claim 9** recites the limitations "the first articulation portion on the front end side" (line 3), "the front end side" (line 3), "the second articulation portion on the rear end side" (lines 3-4), "the rear end side" (lines 3-4), and "the plurality of the articulation portions" (lines 4-5). There is insufficient antecedent basis for these limitations in the claim. **Claims 10-11** are rejected as being dependent upon rejected claim 9.

16. **Claims 9, 12, and 13** recites the functional limitation that "the magnitude of a moment required for starting the bending action of the second articulation portion is larger than a moment required for the bending action of the first articulation portion". This functional recitation is indefinite because it is not supported by recitation in the claim of sufficient structure to accomplish the function. **Claims 10-11 and 14** are rejected as being dependent upon rejected claims 9, 12, and 13.

17. **Claim 10** recites the limitation "the second coupling portion" (line 8). There is insufficient antecedent basis for this limitation in the claim.

18. **Claim 10** recites the functional limitation that "a force generated in a direction along the rotary shaft is increased between the first coupling portion and the second coupling portion accompanied by the bending action of the second articulation portion". This functional recitation is indefinite because it is not supported by recitation in the claim of sufficient structure to accomplish the function. **Claim 11** is rejected as being dependent upon rejected claim 10.

19. **Claim 11** recites the limitations "the contact face of the first coupling portion" (lines 1-2) and "the contact face of the second coupling portion" (lines 2-3). There is insufficient antecedent basis for these limitations in the claim.

20. **Claim 11** recites the limitation "when it is not bent" (line 4). It is unclear as to what "it" refers to (e.g., movable means, first or second articulation portions, etc.) rendering the claim indefinite.

21. **Claim 12** recites the limitations "the first articulation portion" (line 6), "the second articulation portion" (line 6), "the rear end side" (lines 6-7). There is insufficient antecedent basis for these limitations in the claim.

22. **Claim 13** recites the limitations "the first articulation portion" (line 8), "the second articulation portion" (line 8), "the rear end side" (lines 8-9). There is insufficient antecedent basis for these limitations in the claim.

23. **Claim 15** recites the limitation "the front end side of the link member" (lines 5-6). There is insufficient antecedent basis for this limitation in the claims. Further, it is unclear as which link member of the at least one link member is being referred to, rendering the claim indefinite.

24. **Claim 16** recites the limitations "the first articulation portion" (line 3), "the second articulation portion" (line 3), "the rear end side" (lines 3-4). There is insufficient antecedent basis for these limitations in the claim.

25. **Claim 19** recites the limitations "the first joint portion" (line 8) and "the second joint portion" (line 9). There is insufficient antecedent basis for these limitations in the claim.

Claim Rejections - 35 USC § 102

26. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

27. **Claims 1-9, 12-16** are rejected under 35 U.S.C. 102(b) as being anticipated by Yamashita et al ("Multi-Slider Linkage Mechanism for Endoscopic Forceps", Oct. 2003).

Yamashita et al disclose a bending action member including a movable means with a distal bendable portion (bending mechanism), a drive power generating means (DC-servomotor), a drive power transmitting means (linkages), and a member accommodating means (part of handle housing servomotor) connected to the movable means and containing a hollow portion accommodating the transmitting means and an air-tight member (see figures 1 and 5; page 2579, right column, first paragraph), wherein the movable means includes first and second articulation portions constructed to be bendable to the same side, adjoining each other of the plurality of articulation portions, and are constructed such that a bending action at the second articulation portion starts after a bending action at the first articulation portion (see figure 1) and the magnitude of a moment required for starting the bending action of the second articulation portion is larger than a moment required for bending action of the first articulation portion (the moment to start bending at the second portion is greater than that of the first portion, since the forces required for bending at the second articulation

portion moves both the first *and* second articulation portions which would require more force than moving just one of the articulation portions).

Yamashita et al further disclose the air-tight member making a sliding contact with the drive power transmitting means when the drive power is transmitted to the movable means by the drive power transmitting means (see figure 9; page 2579, right column, first paragraph); the bending action member including a pair of forceps members (see figure 7); and the bending action member including a first joint portion constructed of an end on an opposite side of the linkages (i.e., where the linkages and wire connect to the motor; page 2579, right column, first paragraph).

28. **Claim 19** is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Yamashita et al ("Multi-Slider Linkage Mechanism for Endoscopic Forceps", Oct. 2003).

Should Yamashita et al be found to not anticipate claim 19, an alternative rejection under 35 USC 103(a) is provided below over Yamashita et al in view of Barry (US Patent Number 5,928,136).

Regarding **claim 19**, Yamashita et al disclose the device substantially as claimed including the drive power transmitting means including a first joint portion (at the interface with the motor) and the drive generating means having a second joint portion (at the interface with the linkages) which are provided to be connectable and separable; wherein the coupling between the first and second joint portions is executed after the bending action member and the actuator are joined together (since the forceps shaft

contacts the distal portion of the grip of the actuator (and as of that point is to be considered to be jointed to the actuator) before coupling the wires to the motor; see figures 5 and 9; page 2580, left column, first paragraph), and the first and second joint portions are capable of separating action of the bending action member and the actuator.

Claim Rejections - 35 USC § 103

29. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

30. **Claims 10-11** are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamashita et al ("Multi-Slider Linkage Mechanism for Endoscopic Forceps", Oct. 2003) in view of Kuehn et al (US Patent Number 6,743,239).

The device of Yamashita et al discloses the device substantially as claimed, including first and second frame members having respective first coupling and second joint portions and being jointed with a common rotary shaft (see figures 1 and 2), except for a force generated in a direction along the rotary shaft being increased between the coupling and joint portions accompanied by the bending action of the second articulation portion. Kuehn et al teach providing bending frame members with means (notches (374) and prongs) that increase a force generated in a direction along, or at a location on, the rotary shaft (the notches (374) increase a rotary force produced along

the rotary shaft during bending action) accompanied by bending action of an articulation portion (see figure 4; column 12, lines 23-31) in order to facilitate holding a bending member in a certain position. It would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the device of Yamashita et al to include means that increase a force generated in a direction along the rotary shaft, as taught by Kuehn et al, in order to facilitate the bending action member to maintain a desired position during a procedure without requiring manipulation from a user.

Regarding **claim 11**, as the notches and prongs are tapered to complement each other to form a ratcheting mechanism (column 12, lines 23-31) the contact faces of the notches and prongs are considered to be tapered forward and to follow each other when the movable means is not bent.

31. **Claims 17-20** are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamashita et al ("Multi-Slider Linkage Mechanism for Endoscopic Forceps", Oct. 2003) in view of Barry (US Patent Number 5,928,136).

Yamashita et al disclose a manipulator including a bending action member including a movable means with a distal bendable portion (bending mechanism), a drive power transmitting means (linkages), and an actuator including a drive power generating means (DC-servomotor; see figures 1 and 5; page 2579, right column, first paragraph).

The device of Yamashita et al is not explicitly disclosed with the drive power transmitting means including a first joint portion including a projecting portion and the

drive power generating means including a second joint portion including an elastic body urging substantially perpendicularly to the transmitting direction of the drive power and having a fitting hole. Barry teaches providing first and second joint portions to connected members with the first joint portion (20) including a projecting portion (25) and the second joint portion including an elastic body (21) including a fitting hole (24; see figure 3; column 3, lines 7-55). It would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the device of Yamashita et al to have the transmitting means include a first joint portion including a projecting portion and the power generating means include a second joint portion including an elastic body with a fitting hole, as taught by Barry, since Barry teaches that such a joint configuration has minimal thickness (column 1, line 39-45) which would facilitate fitting the joint within the actuator housing the motor in the device of Yamashita et al.

Conclusion

32. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Aust et al (US Patent Number 5,540,706) and

Cooper et al (US Patent Application Publication Number 2003/0036748).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JONATHAN A. HOLLM whose telephone number is (571) 270-7529. The examiner can normally be reached on Monday - Friday 8:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Todd Manahan can be reached on (571) 272-4713. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J.A.H./

/TODD E. MANAHAN/
Supervisory Patent Examiner, Art Unit 3734